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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,757	09/21/2000	William S. Yerazunis	MERL-1274	8924

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Patent Department
Mitsubishi Electric Research Laboratories Inc
201 Broadway
Cambridge, MA 02139

EXAMINER

TRAN, TRANG U

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/666,757

Applicant(s)

YERAZUNIS ET AL.

Examiner

Trang U. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed June 24, 2003 have been fully considered but they are not persuasive.

In re page 5, applicants argue that Abali never predicts movement of the display device. The predictive controller as claimed predicts movement before it happens. The applicants have reviewed Abali thoroughly, and cannot find where predicting future movement of the display device is described. Certainly not a col. 6, lines 20-38. There Abali describes converting an analog signal displacement to a digital signal and describes ways of shifting an image from a digital signal accordingly. Abali requires his accelerometers of the present invention have predicted motion, they do not need to be used again, unless the nature of the motion changes. Abali can never predict motion that hasn't occurred. Therefore, based on Abali's displacement measurement alone, Abali can never anticipate the invention.

In response, the examiner respectfully disagrees. It is noted that the alleged "predicts movement before it happens" is not recited in the claim. The specification is not the measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. In re Sporck, 55 CCPA 743, 382 F.2d 924, 155 USPQ 687 (1968).

Abali discloses in column 2, lines 1-15 that:

"In the first aspect of the present invention, a motion compensating apparatus for a display device having a display screen, **includes a device for sensing a movement of the display device, and a device for compensating for movement of the display device** such that an image on the display screen

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of the display device remains substantially stationary in relation to an observers' gaze.

In the second aspect of the present invention, **a method of compensating for motion of an image on a display device having a display screen, includes sensing a movement of the display device, and compensating for movement of the display device** such that an image on the display screen of the display device remains substantially stationary in relation to an observers' gaze."

From the above passage, it is clear that Abali predict the movement of the display device and compensating for the movement of the display device as recited in claim 9.

In re page 6, applicants argue that Abali has no compensation circuit with gain control and a band-pass filter, neither does Kerr, alone or in combination with Abali. Further, Abali cannot be combined with Kerr. Abali stabilizes an output image on a CRT, while Kerr stabilizes an input in a camera. Stabilization for camcorders is a well known technique, but that technique can never work for CRTs.

In response, the examiner respectfully disagrees. The examiner has pointed out what each of the prior art references teaches and has indicated how and why these references would have been combined to arrive at the claimed invention. Applicants cannot show non-obviousness by attacking the references individually where, as here, the rejection is based on a combination of references. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). As discussed in the last Office Action, Kerr et al teach that the gain controller (AGC 142, Fig. 6, col. 7, lines 1-22) and the band-pass filter (Fig. 7, col. 7, line 67 to col. 8, line 55). Abali discloses in column 1, lines 45-60 that "such a system for a video recording device is cannot be incorporated in a display device **unless the display device is equipped with a fixed camera that can record the display**

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device's motion and infer from the recorded image the displacement in two dimensions. Hitherto, the invention such a technique has not been performed in which motion is deduced directly for a display device being physically vibrated or moved. From the above passage, it is clear that Abali provide a method and apparatus for improving the conventional recording system. Thus, one of ordinary skill in the art would motivate to combine the references as proposed by the Examiner for improving the conventional recording system.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abali et al. (US Patent No. 6,317,114 B1) in view of Kerr et al (US Patent No. 4,916,536).

In considering claim 1, Abali et al discloses all the claimed subject matter, note 1) the claimed a first and second accelerometers mechanically coupled to the display screen is met by the horizontal and vertical sensors 41V, 41H (Fig. 6A, col. 4, lines 40-55 and col. 5, lines 23-46), 2) the claimed a first and second compensation circuits to convert acceleration in horizontal and vertical directions respectively to x- and y-compensation signals is met by the horizontal and the vertical motion sensing circuits 42 (Fig. 6A, col. 5, lines 23-46), and 3) the claimed first and second adders combining

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the x- and y-compensation signals with the horizontal and vertical display signals to dynamically adjust a location of the image on the display screen while the display device is subject to movement is met by the horizontal direction signal and the vertical direction signal circuits 50H and 50V (Fig. 6A, col. 5, line 23 to col. 6, line 14). However, Abali explicitly does not disclose the claimed wherein each compensation circuit includes a gain control circuit. Kerr et al teach that the received signal is then directed to an automatic gain control device (AGC) 142, device 142 measures intensity and outputs intensity signal 143 (Fig. 6, col. 7, lines 1-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the compensation circuit includes a gain control circuit as taught by Kerr et al into Abali et al's system in order to increase the quality of the video signal by controlling the gain of the system at standard picture frame frequencies.

In considering claim 2, the claimed wherein the display screen is a cathode ray tube and the compensation circuits operate in an analog mode is met by the analog signal may be directly fed to the cathode ray tube (CRT) circuitry 100 (Fig. 6A, col. 5, lines 30-65) of Abali.

In considering claim 3, the claimed wherein the display signals are deflection signals for the cathode ray tube is met by the sawtooth waveform (col. 5, line 50 to col. 6, line 14) of Abali.

In considering claim 4, the claimed wherein the display screen is a digital screen is met by computer display 10 (Fig. 6B, col. 6, lines 14-26) of Abali.

In considering claim 5, the claimed wherein the display signals are address signals for a frame buffer of the digital screen is met by a Screen Start Address register which specifies the location in display memory where data to be displayed begins (Fig. 6B, col. 6, lines 14-53) of Abali.

In considering claim 6, Abali et al discloses all the claimed subject matter, note 1) the claimed wherein each compensation circuit further comprises: a first and second integrator to convert acceleration to position is met by the horizontal and the vertical motion sensing circuits 42 (Fig. 6A, col. 5, lines 23-46). However, Abali et al explicitly does not disclose the claimed at least one band-pass filter. Kerr et al teach that the signal that is output from the divider 182, is then filtered by third bandpass filter 184 or fourth bandpass filter 186, depending on whether the output is intended for viewing by human observers or machine vision (Fig. 7, col. 7, line 67 to col. 8, line 55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the bandpass filter as taught by Kerr et al into Abali et al's system in order to efficiency the bandwidth conservation.

In considering claim 7, the claimed wherein a low frequency cut-off of the band pass filter is less than one half cycle per second, and a high frequency cut-off is less than a refresh rate of the display screen is met by the bandpass filter 186 (Fig. 7, col. 8, lines 22-55) of Kerr et al.

Claim 9 is rejected for the same reason as discussed in claim 1 and further the claimed comprising a predictive controller to anticipate the movement is met by the graphics driver 61 (Fig. 6B, col. 6, lines 20-38) of Abali.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trang U. Tran** whose telephone number is **(703) 305-0090**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W. Miller**, can be reached at **(703) 305-4795**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

TT TT
September 22, 2003


MICHAEL H. LEE
PRIMARY EXAMINER